

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Currently Amended) The system as set forth in claim ~~4~~ 22 wherein the main body portion of said transfer plate has a generally flat underside and said flexible lips are generally coplanar with said flat underside.
6. (Currently Amended) The system as set forth in claim ~~4~~ 22 comprising three flexible lips for each aperture, said lips positioned equally spaced around the aperture.
7. (Cancelled)
8. (Currently Amended) The system as set forth in claim 6 wherein the radially inner edges of the lips comprise circular arcs defining a diameter ~~approximately~~ equal to the diameter of the openings in the pipette holder.
9. (Currently Amended) The system as set forth in claim ~~8~~ 22 wherein said support structure comprises a plurality of legs extending ~~generally~~ perpendicular to the transfer plate and positioned between adjacent apertures.

10. (Currently Amended) The system as set forth in claim ~~1~~22 wherein the push plate comprises an upper body having a generally planar undersurface and an array of fingers extending downwardly from the undersurface arranged to align with and extend into the mounting sleeves of the tips

11. (Currently Amended) The system as set forth in claim 10 wherein each of said fingers comprises a tapered distal end sized to extend into the mounting sleeve of a tip, and a ~~generally cylindrical~~ proximal end sized to pass through a transfer tray aperture and forming at ~~the~~a juncture with the distal end a shoulder adapted to engage the upper edge of the pipette tip mounting sleeve and push said upper edge past the flexible lips.

12. (Cancelled)

13. (Currently Amended) The method as set forth in claim ~~17~~24 wherein the pipette tips are of the type wherein the tapered tip end and the upper mounting sleeve are separated by an intermediate shoulder and including the step of supporting the tips by their intermediate shoulders on the flexible peripheral edge portions of the apertures in the transfer plates.

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (New) A reloading system for transferring one of a plurality of tiers of pipette tip arrays from a vertically stacked orientation to an empty pipette tip holder, said system comprising:

a pipette tip holder having a flat support surface provided with an array of tip support openings adapted to receive and hold an array of pipette tips;

a plurality of stacked tiers of pipette tip arrays, wherein the pipette tips each have a lower tapered tip end, and an upper mounting sleeve separated from the tip end by a shoulder;

a transfer plate in each tier holding a respective array of pipette tips, each transfer plate having a main body portion of uniform thickness and an array of apertures arranged to align with the array of tip support openings in the pipette tip holder, each of the apertures having a peripheral edge portion including a plurality of flexible lips extending radially inwardly from the edges of the apertures, said lips adapted to support a pipette tip by its shoulder with the tip end extending downwardly through the aperture in the transfer plate;

a support structure formed integrally with and depending downwardly from the underside of each transfer plate and engageable with the transfer plate of the tier immediately below in the stacked orientation to prevent supporting contact between vertically adjacent tips, said support structure operative to support the transfer plate on the flat support surface of the pipette tip holder; and,

a push plate adapted to overlie each of the transfer plates individually and directly engage the mounting sleeves of the tips held in the array of apertures of the

transfer plate and push the same through the apertures, past and separated completely from the flexible lips and into the tip support openings on the pipette tip holder.

23. (New) The system as set forth in claim 22 wherein said flexible lips are less than half the thickness of said main body portion.

24. (New) A method for transferring one of a plurality of tiers of pipette tip arrays from a vertically stacked orientation to an empty pipette tip holder, the pipette tips each having a lower tapered tip end and an upper mounting sleeve with a flat upper end and the pipette tip holder having a flat support surface provided with an array of tip support openings adapted to receive and loosely hold the array of tips, said method comprising the steps of:

(1) providing an empty pipette tip holder having a flat support surface provided with an array of tip support openings adapted to receive and loosely hold an array of pipette tips;

(2) providing a plurality of stacked tiers of pipette tip arrays, each tier of pipette tip arrays being held and supported by a transfer plate having a flat body with an array of apertures arranged to align with the array of tip openings in the holder, wherein each of the apertures is formed with a flexible peripheral edge portion sized to support a pipette tip by its mounting sleeve with the tip end extending downwardly from the underside of the transfer plate body;

(3) supporting all but the lowermost transfer plate on the adjacent transfer plate of the tier immediately below with a transfer plate support structure formed integrally with and depending downwardly from the underside of the respective transfer plate to prevent supporting contact between vertically adjacent tips in the stacked orientation;

(4) positioning the transfer plate of the uppermost tier in the stack and the array of tips supported thereon over the empty pipette tip holder with the tip ends

extending into the openings of the tip holder and the support structure resting on the support surface to prevent supporting contact of the tips by the tip holder;

(5) providing a push plate having a plurality of downwardly depending protrusions corresponding to and alignable with the pipette tips held in the transfer plate, said protrusions including shoulders adapted to engage the upper ends of said upper mounting sleeves of the pipette tips;

(6) aligning the push plate with the transfer plate positioned over the empty pipette tip holder and engaging the downwardly depending protrusions on the push plate with the mounting sleeves of the pipette tips in the transfer plate positioned over the empty pipette tip holder; and,

(7) pushing the tips with the push plate protrusions through the apertures and causing the flexible edge portions to deflect downwardly until the upper ends of the tips and the shoulders are past the edge portions and the tips are free of the transfer plate to drop into the tip support openings on the pipette holder.

25. (New) The method as set forth in claim 24 comprising the step of forming said flexible edge portions with a thickness less than half the thickness of the flat body.